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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,022	06/28/2005	Takeo Tsukada	273965US0PCT	4135
22850 7590 08/15/2007 OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
			EXAMINER KOSLOW, CAROL M	
			ART UNIT 1755	PAPER NUMBER
			NOTIFICATION DATE 08/15/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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oblonpat@oblon.com  
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# Office Action Summary

Application No.

10/541,022

Applicant(s)

TSUKADA ET AL.

Examiner

C. Melissa Koslow

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 6/2005,9/2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

The Japanese references cited in the information disclosure statement of 28 June 2005 have been considered with respect to the supplied abstracts.

Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear if the secondary lanthanoid is required to be present in the claimed ceramic and thus the claimed composition is indefinite. Lines 8-9 teach that only at least one of Mn oxide, Co oxide and lanthanoid need be present, which mean that the lanthanoid does need to be present, but lines 10-12 appear to indicate that the lanthanoid needs to be present. Claim 4 does not clarify the issue since it simply defines the composition of the lanthanoid. It does not indicate if it must be present or not. Applicants need to clarify this issue.

Until this issue is clarified, the Examiner is interpreting claim 1 as teaching at least one of Mn oxide, Co oxide and lanthanoid need be present and if the secondary component comprises lanthanoid, it is present in an amount of 0.02-0.12 wt%. Thus the claims read on embodiments where the secondary component does not contain lanthanoid. Claim 4 will be includes in such embodiments since it further defines a component that need not be present and thus simply broadens the list of components which the secondary component is selected.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re*

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*Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-4 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3, 6-8 and 11-13 of copending Application No. 10/581,277. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending application claims a piezoelectric ceramic comprising as the main component a compound having the formula  $M_{1-b}Ln_bBi_gTi_4O_{15}$ , where M is Ca, Sr or Ba, Ln is a lanthanoid element, b is 0.01-0.5 and g is 3.8-4.5 and further comprising as a secondary component an oxide of Mn, preferably in the amount of 0.1-1 wt% in terms of MnO. This ceramic suggests that claimed.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by US. Patent 6,241,908.

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This reference teaches a piezoelectric ceramic comprising, as a main component, a compound having the formula  $\text{Sr}_{1-x}\text{Ln}_x\text{Bi}_4\text{Ti}_4\text{O}_{15}$ , where Ln is a lanthanoid element, such as La, Sm, Gd, Dy or Ho, and  $0 < x < 0.5$ , and further containing, as secondary components, Mn oxide, preferably in the amount of 0.02-0.62 wt%, in terms of MnO, or Co oxide, preferably in the amount of 0.1-5 wt%, in terms of CoO. This ceramic teaches that claimed.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by US. Patent 6,461,532.

This reference teaches a piezoelectric ceramic comprising, as a main component, a compound having the formula  $\text{Ca}_{1-x}\text{Ln}_x\text{Bi}_4\text{Ti}_4\text{O}_{15}$ , where Ln is a lanthanoid element, such as La, Pr, Sm, Gd, Dy or Ho, and  $0 < x < 0.5$ , and further containing, as secondary components, Mn oxide, preferably in the amount of 0.02-0.62 wt%, in terms of MnO, or Co oxide, preferably in the amount of 0.1-5 wt%, in terms of CoO. This ceramic teaches that claimed.

It is noted that there is no teaching or suggestion in the cited art of record of a piezoelectric ceramic comprising, as a main component, a compound having the formula  $\text{M}_{1-x}\text{Ln}_x\text{Bi}_4\text{Ti}_4\text{O}_{15}$ , where M is Ca, Sr or Ba, Ln is a lanthanoid element,  $0 < x \leq 0.5$  and further containing, as secondary components, 0.02-0.12 wt%, of a lanthanoid, in terms of its oxide, and optionally at least one of Mn oxide and Co oxide.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

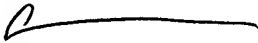
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at (571) 272-1233.

The fax number for all official communications is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cmk  
August 10, 2007



C. Melissa Koslow  
Primary Examiner  
Tech. Center 1700